APPENDIX 6

TREE SURVEY

ARBORICULTURAL SURVEY
to BS 5837:2005
at
Station Road
Wombwell
Barnsley
South Yorkshire

Client:
Chris Carr Associates

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Terry Beaumont

Contents

1. Introduction 3
1.1 Purpose of the Report 3
1.2 Terms of Reference 3
1.3 Scope of the Report 3
1.4 Survey details 3
2. Site Description 4
2.1 Land Use 4
2.2 Topography 4
2.3 Treescape 4
2.4 Amenity Value 4
2.5 Age Class Mix 4
2.6 Species Diversity 4
3. Explanation of Tree Descriptions 5
3.1 Measurements 5
3.2 Evaluations 5
3.3 Retention Categories 5
4. Status of the Trees 7
5. Tree Descriptions and Recommendations 7
6. Discussion 8
6.1 Tree Condition & Recommended Works 8
General advice 9
8 Conclusion 10

Appendix 1: Tree Descriptions and Recommendations 11
Appendix 2: Glossary of Terms & Abbreviations 12
Appendix 3: The Author's Qualifications 13
Appendix 4: General Guidelines 14
Appendix 5: Site Plan 15

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1. Introduction

1.1 Purpose of the Report

1.1.1 A report is needed at the above location to give detailed, independent, arboricultural advice on the trees present, in the particular context of potential development.

1.2 Terms of Reference

1.2.1 I am instructed by Terry Beaumont of Chris Carr Associates, to visit the site and prepare my findings in a report.

1.2.2 For this purpose I have been supplied with a topographical survey.

1.3 Scope of the Report

1.3.1 This report is compiled in accordance with *BS 5837:2005 Trees in relation to construction.* The specific design of any proposed development is not generally taken into account at this stage.

1.3.2 Preliminary recommendations are given with a view to safety and the long-term management of a sustainable tree cover.

1.3.3 All trees within the site boundary with a stem diameter above 75mm are included.

1.3.4 Where applicable smaller trees and significant shrub masses are included.

1.3.5 Where applicable trees outside the site boundary, but close enough to be affected by development, are included.

1.4 Survey details

1.4.1 The survey took place during the month of January 2008.

1.4.2 The survey was conducted by Andrew Bussey.

1.4.3 Inspection was made at ground level. Further investigation, such as climbed inspections or decay detection surveys, may be recommended where appropriate.

1.4.4 Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible measurements were estimated.

1.4.5 No digging or drilling was carried out on this occasion.

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2. Site Description

2.1 Land Use

2.1.1 The site is currently the grounds of an industrial estate.

2.2 Topography

2.2.1 The site is approximately level.

2.3 Treescape

2.3.1 The trees adjacent to Station Road site have a moderate impact on the local treescape.

2.3.2 The immediate surrounding area is generally lacking in the form of treescape, however nearby industrial estates have introduced tree planting as part of their landscaping schemes.

2.4 Amenity Value

2.4.1 The trees on site collectively provide a reasonable amenity to the surrounding area. Occasional specimens have a high amenity value.

2.5 Age Class Mix

2.5.1 The trees surveyed ranged in age from young to early-mature. However the trees were predominantly young and semi-mature.

2.6 Species Diversity

2.6.1 Species surveyed include Silver Birch, Poplar, Rowan, Lime, Cherry, Oak, Maple, Alder, Sycamore, Elder, Ash, Hawthorn and Willow. The predominant species were Sycamore and Silver Birch.

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3. Explanation of Tree Descriptions

3.1 Measurements

3.1.1 *HEIGHT* of the tree is measured from the stem base. Where the ground has a significant slope the higher ground is selected.

3.1.2 *CROWN HEIGHT* is an indication of the average height at which the main crown begins

3.1.3 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; the diameter is measured close to ground level, just above the root buttress.

3.1.4 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

3.2 Evaluations

3.2.1 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, or over-mature.

3.2.2 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account vigour, presence of disease and dieback.

3.2.3 *STRUCTURAL CONDITION* is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.

3.2.4 *LIFE EXPECTANCY* is classed as; less than 10 years (<10), 10-20 years, 20-40 years, or more than 40 years (40+). This is an indication of the number of years before removal of the tree is likely to be required.

3.3 Retention Categories

3.3.1 *RETENTION CATEGORY* values for the trees are as follows:

3.3.2 ***A (marked green on the plan) = retention most desirable***
These trees are of high quality and value with a good life expectancy. They may be further sub-divided as follows:

Ai) Particularly good examples; perhaps rare or unusual species, or forming an essential part of arboricultural features e.g. avenues;

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Aii) Groups of trees having a significant landscape impact or with excellent screening properties, or those softening the effect of existing structures;
Aiii) Those having significant conservation or historical value e.g. veteran trees.

3.3.3 ***B (marked in blue on the plan) = retention desirable***
These trees are of moderate quality and value with a significant life expectancy. They may be further sub-divided as follows:

Bi) Trees that might be included in the high category but because of their numbers or slightly impaired condition, are downgraded in favour of the better individuals;
Bii) Groups of trees forming distinct landscape features, thereby attracting a higher collective rating than they might as individuals;
Biii) Trees with clearly identifiable conservation or other cultural benefits.

3.3.4 ***C (marked in grey on the plan) = trees which could be retained***
These trees are of low quality and value, and are in adequate condition to remain until new planting could be established. They may be further sub-divided as follows:

Ci) Trees not qualifying in higher categories;
Cii) Groups of trees which do not form a distinct landscape feature;
Ciii) Trees with very limited conservation or other cultural benefits.

3.3.5 ***R (marked in red on the plan) = trees for removal***
These trees are in such a condition that any existing value would be lost within 10 years. This may be due to any of the following:

i) Failure is likely due to serious, irredeemable, structural defects;
ii) Removal of other category R trees will render them exposed and unstable;
iii) They are in serious, overall decline or are dead;
iv) They are of low quality and suppressing adjacent trees of better quality;
v) Diseases are present which may affect the health of adjacent trees.

These trees should be removed or treated in such a way as to make them safe where they have high ecological value, such as in a woodland setting.

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4. Status of the Trees

4.1 Enquiries have been made with Barnsley Metropolitan Borough Council as to the status of trees on site, yet no information has as yet been forthcoming.

We are not aware at the present time as to whether the site is a Conservation Area or whether any Tree Preservation Orders are in force on this site.

When JCA Ltd have the relevant information concerning the status of trees on site we will write to you and let you know.

5. Tree Descriptions and Recommendations

5.1 Full details of all individual trees surveyed are recorded in the tables at Appendix 1. Please refer also to the attached plan at Appendix 5 and section 3 above, for a full explanation of the tables and plan.

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6. Discussion

6.1 Tree Condition & Recommended Works

6.1.1 In total **33** items or groups of vegetation were surveyed, of which **2** fell into category **A**, **12** fell into category **B**, **18** fell into category **C** and **1** fell into category **R**.

6.1.2 One group (**G13**) consists of dense growing Poplar trees generally of poor form. Dead specimens and branches are present within this group. I advise that all dead specimens and dead branches be removed along with smaller and poorer formed individuals. This will increase the aesthetic value of this group of trees therefore raising the amenity value of the treescape.

6.1.3 Two trees which comprise **G15** are dead and require removal. As both trees are situated in a field used for horses their removal is of a low priority.

6.1.4 Trees within **G33** were not fully surveyed due to restricted access. These trees were generally of self sown nature and of poor quality, giving little amenity value to the local treescape.

6.1.5 No other remedial works are required at present.

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General advice

7.1. Those trees which overhang public footpaths and public highways, as described in Appendix 1, shall require future maintenance in order to maintain clearance heights for vehicular and pedestrian traffic. These heights should be 5.6m above a road and 2.5m above a footpath.

7.2. All development work carried out in close proximity to trees should be done so in a manner sympathetic to their needs. Otherwise the condition of the trees may deteriorate in the months and years following the development, leading to a loss of amenity and potentially hazardous trees.

7.3. Protective fencing, in accordance with BS 5837:2005 should be erected around all the trees which are to be retained on site. The fencing will ensure that the trees remain healthy during and after the development process.

7.4. Root Protection Areas (RPAs) have been plotted around each tree and is generally represented by a circle with the tree located at the centre (see the attached plan at Appendix 5). The radius of each circle is determined on the measurement derived from calculations in BS 5837: 2005.

7.5. The RPAs represent the likely rooting zone of a tree, which should not be disturbed. The development should ideally be designed in order to avoid the RPA's of those trees that are to be retained. Where possible the proposed positions of new structures such as buildings, driveways, car parking spaces and paths should be outside the RPAs of those trees which are to be retained. On some occasions it may be possible to construct new buildings upon narrow pile/beam foundations. This should allow new buildings to be constructed within the RPAs of trees without being detrimental to their long term health. A structural engineer should be consulted on the potential to use pile/beam foundations on this site prior to any plans being drawn.

7.6. In addition to the roots, the position of any new buildings should also take into account tree canopies. Adequate clearance between the new building and the canopies is required in order to avoid conflict in the future (e.g. leaf litter blocking gutters). The shade that will be cast by the retained trees should also be considered when positioning a new building.

7.7. In order to ensure the protection of the trees throughout the development phase, a detailed method statement is recommended. This method statement will detail tree root protection areas and the positions of protective fencing, service runs, site access and storage, specifications for special hard surfacing and a timetable of events relating to the procedures. Failure to adhere to such procedures will greatly reduce the life expectancy of the surveyed trees. A detailed Method Statement is frequently required by the local authority before planning permission is granted.

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8 Conclusion

8.1. The trees surveyed were generally found to be in fair or good condition.

8.2. Two trees in **G13** have been recommended for removal. These are discussed in Section 6 and detailed in Appendix 1.

8.3. **G15** should be improved by the removal of dead trees, dead branches and poor specimens.

8.4. Trees within **G33** were not fully surveyed due to restricted access.

8.5. General guidance regarding tree care during the development phase has been given in Section 7.

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Appendix 1: Tree Descriptions and Recommendations

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Ref No.	Age & Species & *Latin Name*	Height (m)	Crown Height (m)	Stem Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physio-logical Condition & Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
G1	Semi-mature-early-mature Silver Birch, Sycamore, Elder *Betula pendula, Acer pseudoplatanus, Sambucus nigra*	To 16	0	To 35	See plan	Group of self sown trees of reasonable quality. No major visible defects.	No action required.	GOOD GOOD	MOD	20-40	B
G2	Semi-mature Silver Birch *Betula pendula*	To 15	0	To 38	See plan	Five trees of reasonable quality. No major visible defects.	No action required.	GOOD GOOD	MOD	20-40	B
T3	Early-mature Sycamore *Acer pseudoplatanus*	11	6	34	3.5 / 3.5 4 / 3.5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	MOD	20-40	B
G4	Semi-mature Poplar *Populus sp*	To 15	0	To 28	See plan	2 self sown trees of poor form.	No action required.	FAIR FAIR	LOW	20-40	C
T5	Semi-mature Rowan *Sorbus aucuparia*	5	1	To 15 per stem	2 / 2 2 / 2	Tree of poor form. Multi-stemmed at ground level with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required.	FAIR FAIR	LOW	10-20	C
T6	Young Rowan *Sorbus aucuparia*	4	1	To 12 per stem	2 / 2 2 / 2	Tree of poor form. Multi-stemmed at ground level with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required.	FAIR FAIR	LOW	10-20	C
T7	Semi-mature Silver Birch *Betula pendula*	10	2	20	2.5 / 2.5 2.5 / 2.5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	MOD	40+	B
T8	Young Silver Birch *Betula pendula*	6	2	18 at base	1 / 1 1 / 1	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	FAIR FAIR	LOW	20-40	C
T9	Semi-mature Silver Birch *Betula pendula*	11	2	28	2.5 / 2.5 2.5 / 2.5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	MOD	40+	B
G10	Young Silver Birch *Betula pendula*	To 6	2	To 12	1 / 1 1 / 1	Two trees, single stemmed and vertical with well-developed crowns, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	FAIR FAIR	LOW	20-40	C

Ref No.	Age & Species & *Latin Name*	Height (m)	Crown Height (m)	Stem Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physio-logical Condition & Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
T11	Early-mature Norway Maple *Acer platanoides*	9	3	41	5 / 5 5 / 5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. Multiple pruning wounds due to crown lifting and no major visible defects.	No action required.	GOOD GOOD	HIGH	40+	A
T12	Early-mature Common lime *Tilia cordata*	9	2	38	3.5 / 3.5 3.5 / 3.5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. Multiple pruning wounds due to crown lifting and no major visible defects.	No action required.	GOOD GOOD	HIGH	40+	A
G13	Young-early-mature Poplar *Populus sp*	To 11	0	To 35	See plan	Group of poor quality trees forming scruffy copse, some dead trees and branches.	Remove dead trees and branches.	FAIR FAIR	MOD	20-40	C
G14	Young-semi-mature Cherry *Prunus sp*	To 9	0	To 25	See plan	Self sown trees of poor form.	No action required.	FAIR FAIR	LOW	20-40	C
G15	Young Sycamore *Acer pseudoplatanus*	To 8	2	To 18	1.5 / 1.5 1.5 / 1.5	Two dead trees.	No action required.	DEAD DEAD	DEAD	<10	R
G16	Semi-mature Oak *Quercus sp*	To 12	2	To 25	3 / 3 3 / 3	Two trees. Single stemmed and vertical with unbalanced crowns. No evidence of significant pruning. No major visible defects.	No action required.	FAIR FAIR	LOW	20-40	C
T17	Early-mature Common lime *Tilia cordata*	12	2	48 at base	4 / 5 5 / 4	Multi-stemmed at ground level with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD FAIR	MOD	20-40	C
T18	Semi-mature Common lime *Tilia cordata*	8	1	To 15 per stem	3 / 3 3 / 3	Multi-stemmed at ground level with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	FAIR FAIR	LOW	10-20	C
T19	Semi-mature Common lime *Tilia cordata*	9	1.5	19	2.5 / 2.5 2.5 / 2.5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD FAIR	LOW	20-40	C
T20	Early-mature Common lime *Tilia cordata*	11	2	32	3.5 / 3.5 3.5 / 3.5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	MOD	40+	B

Ref No.	Age & Species & *Latin Name*	Height (m)	Crown Height (m)	Stem Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physio-logical Condition & Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
G21	Semi-mature Poplar *Populus sp*	To 12	To 2	To 28	3.5 3.5 3.5 3.5	Two trees next to each other. Single stemmed and vertical with well-developed crowns. No evidence of significant pruning. No major visible defects.	No action required.	FAIR FAIR	MOD	20-40	C
G22	Young-semi-mature Silver Birch *Betula pendula*	To 14	To 2	To 20	Typ 2.5 each 2.5 2.5 2.5	Five trees of good form.	No action required.	GOOD GOOD	MOD	40+	B
T23	Early-mature Alder *Alnus sp*	17	2	40	4.5 4..5 4.5 4.5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	MOD	40+	B
G24	Young- semi-mature Mixed	To 16	0	To 30	See plan	Densely planted trees including Alder, Ash, Cherry and Poplar.	No action required.	FAIR FAIR	MOD	20-40	C
T25	Semi-mature Common lime *Tilia cordata*	8	1.5	28	2.5 2.5 2.5 2.5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	MOD	40+	B
G26	Young – early-mature Mixed	To ?	0	To 42	See plan	Group of planted trees containing London Plane, Horse Chestnut, Silver Birch, Rowan, Lime.	No action required.	GOOD GOOD	MOD	40+	B
T27	Early-mature Norway Maple *Acer platanoides*	11	2	30	3 3 3 3	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	MOD	40+	B
T28	Semi-mature Cherry *Prunus sp*	5	0	30 at base	3 3 3 3	Twin-stemmed at ground level with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects. Included bark at stem junction.	No action required.	FAIR FAIR	LOW	10-20	C
G29	Semi-mature Cherry *Prunus sp*	To 7	1	To 28	2 2 2 2	Both single stemmed and vertical with well-developed crowns. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	LOW	20-40	C
T30	Early-mature Rowan *Sorbus aucuparia*	7	2	32	3.5 3.5 3.5 3.5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	MOD	20-40	C

Ref No.	Age & Species & *Latin Name*	Height (m)	Crown Height (m)	Stem Diameter (cm)	Crown Spread N W E S	Observations	Recommendations	Physio-logical Condition & Structural Condition	Amenity Value	Life Expectancy (yrs)	Retention Category
T31	Early-mature Norway Maple *Acer platanoides*	11	2	30	N 2, W 2, E 5, S 4	Single stemmed and vertical with an unbalanced crown. No evidence of significant pruning. No major visible defects.	No action required.	GOOD GOOD	MOD	40+	B
T32	Semi-mature Rowan *Sorbus aucuparia*	7	0	28 at base	N 2.5, W 2.5, E 2.5, S 2.5	Single stemmed and vertical with a well-developed crown, good branch junctions throughout. No evidence of significant pruning. No major visible defects. Major epicormic growth at base.	No action required.	GOOD GOOD	MOD	20-40	C
G33	Young – semi-mature Mixed	To 13	0	To 25	See plan	Group of self sown trees of poor quality containing Silver Birch, Hawthorn, Poplar, Sycamore, and Ash.	No action required.	FAIR FAIR	LOW	20-40	C

Appendix 2: Glossary of Terms & Abbreviations

Arboriculture	The cultivation of trees in order to produce individual specimens of the greatest ornament, for shelter or any primary purpose other than the production of timber.
Canker	Disease damaged area of a tree, usually caused by fungus or bacteria.
Co-dominant Stem	A stem which has grown in direct competition to the main stem and which has formed a substantial size influencing the appearance of the tree.
Crown Lift	The removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc.
Crown reduce	The reduction of a tree's height or spread while preserving its natural shape.
Crown thin	The removal of some of the density of a tree's crown, usually 5-25% allowing more light through its canopy and reducing wind resistance.
Deadwood	Either dead branches, or a procedure involving the removal of dead, dying and diseased branches.
Dieback	Where branches are beginning to show signs of death usually at the tips in the crown.
Epicormic shoots	Small branches that grow in uncharacteristic clusters around the base or the stem of a tree, usually as a result of bad pruning or some other stress factor.
Formative pruning	The trimming of a tree to remove weaknesses and irregularities which may lead to problems. The formative pruning operation is aimed at reducing the potential for future weaknesses or problems within the tree's crown.
Included bark	Where the bark on two adjoining branches or stems is growing tight together, forming a joint with limited physical strength.
Pollarding	A method of tree management in which the main trunk of the tree is cut at about 4m, and the resulting branches are then cropped on a regular basis.
Remedial pruning	The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. Sometimes referred to as crown cleaning.
Topping	Topping is a form of pruning that removes terminal growth leaving a 'stub' cut end. Topping causes serious health problems to a tree.

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Appendix 3: The Author's Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *FRES PDipArb(RFS) FArborA CBiol MIBiol.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 28 years experience in the arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. He has since developed JCA's portfolio of services and its extensive client base. Jonathan is a Chartered Biologist and an expert witness with much experience of litigation work.

Consulting Arboriculturists

Toby Thwaites *BSc (Hons) HND (Arboriculture).* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Lancashire. Toby is a JCA team leader and manages an office of consulting arborists.

Ivan Button *NCH (Arboriculture) BSc (Hons) PGCE.* Ivan joined JCA in 2005 after nine years having managed his own landscaping and tree surgery business. He has studied at the Universities of Leeds, Lincoln and Wales and is currently working towards a degree in arboriculture at the University of Lancashire. Ivan is a JCA team leader and manages an office of consulting arborists.

Andrew Bagshaw *FD (Arboriculture).* Andrew joined JCA in 2005 having gained several years experience in tree surgery and landscaping. He is trained in aerial rescue and is JCA's principal first aid person. He is currently working towards a degree in arboriculture at the University of Lancashire.

Adam Winson *BSc (Hons) E Con, ND (Arboriculture).* Prior to working at JCA Adam has worked as a tree surgeon for eight years for a range of private companies and Sydney City Council. Adam achieved a national award for best Dissertation on the subject of Urban Greenspace Management at Sheffield Hallam University. Adam is currently working towards an MSc in Arboriculture at the University of Lancashire.

Robert Godwin *BA (Hons) Landscape Planning, ISA Certified Arborist.* Robert joined JCA having spent several years as an arboricultural consultant particularly in relation to subsidence. He also has considerable experience in landscape and arboricultural contracting. Robert is currently working towards an MSc in Arboriculture at the University of Lancashire.

Arboricultural Technicians

Victoria Black. Victoria has been with JCA for over 5 years building her knowledge of the arboricultural business. She is currently working towards a degree in arboriculture at the University of Lancashire.

Andrew Bussey. Andrew joined JCA having spent 12 years doing tree surgery for various private companies and a local authority. He has various NPTC qualifications and is currently studying for his Arboricultural Technicians Certificate.

Lee Major. Lee recently joined JCA having gained his RFS Certificate in Arboriculture. Lee also has two years climbing experience, working for a local tree surgeon. He is currently working towards his degree in arboriculture at the University of Lancashire.

Administrative Staff

Andrew C Parker, GM, BA (Hons), PGCE, Practice Manager
Catherine Cocking, Accounts Manager
Sue Guest, Administrative Officer
Sally Whitwam, Administrative Assistant
Yasmin Hussain, Administrative Assistant
Alec Fielden, City and Guilds 3, CAD Technician

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Appendix 4: General Guidelines

A4.1 All work must be to BS 3998:1989 - '*Recommendations for tree work*'.

A4.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors, and should be covered by adequate public liability insurance.

A4.3 This report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.

A4.4 Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.

A4.5 No liability can be accepted by the consultant in respect of the trees unless the recommendations of this report are carried out under his supervision and within his timescale.

A4.6 It is advisable to have trees inspected by an arboricultural consultant regularly. In this instance it is recommended that these inspections are made every year.

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Appendix 5: Site Plan

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I hope that this report provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed

Andrew Bussey

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On behalf of

Jonathan P Cocking. F.R.E.S., P.Dip. Arboriculture (RFS), F Arbor A, C.Biol., M.I.Biol., Registered Consultant of the Arboricultural Association.

10th January 2008

For and on behalf of ***JCA Ltd***

Registered Office:

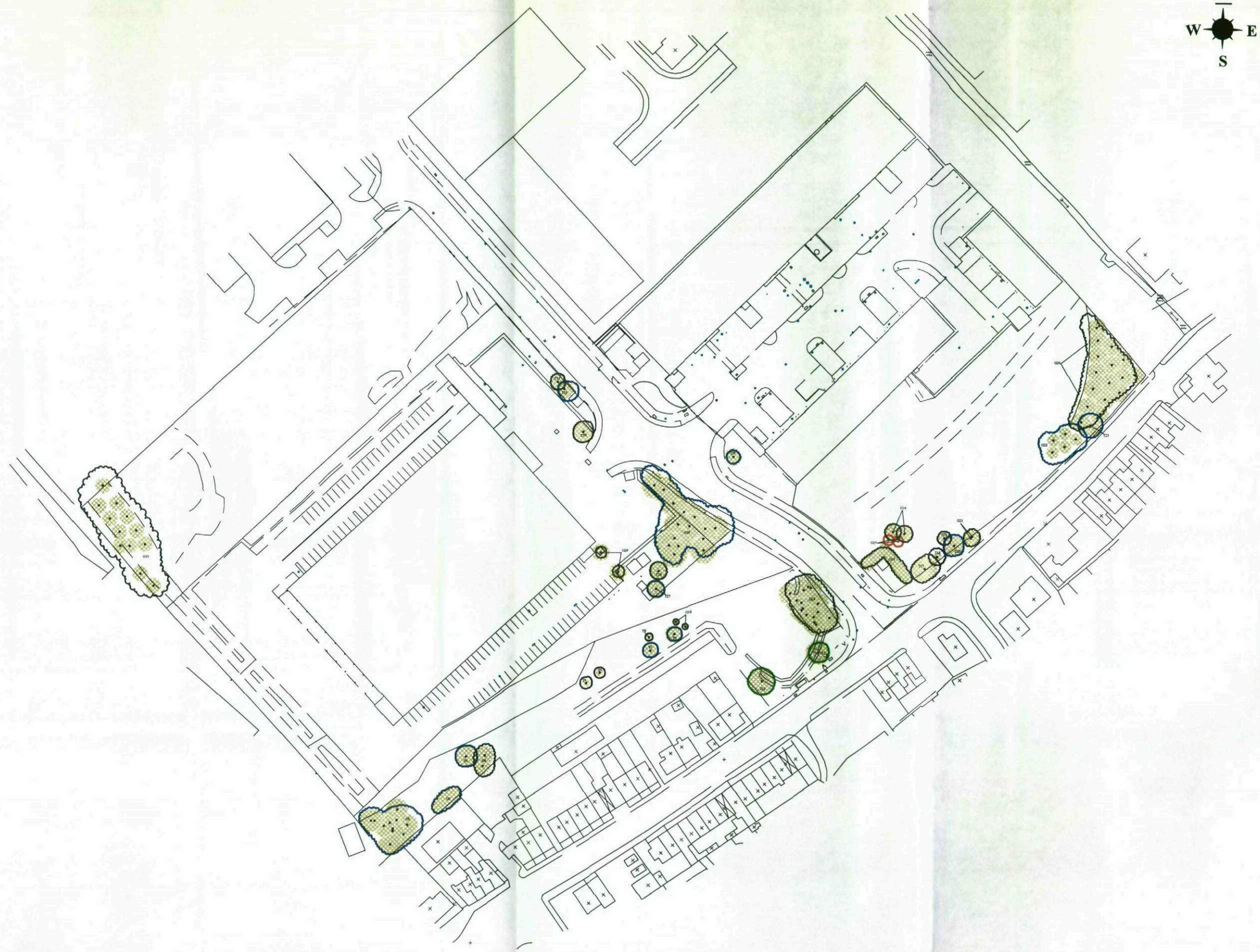
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Appendix 5: Site Plan

TITLE: Station Road
Barnsley
8350/AJB

SCALE : 1:1000	PAPER SIZE : A2

BRITISH STANDARD 5837:2005: 4.3.1
RETENTION CATEGORIES

Detailed definitions of these categories are at Section 3 of our report. N.B. These categories do not necessarily represent or correspond to recommendations for action made in this report.

	CATEGORY A: 'RETENTION MOST DESIRABLE'
	CATEGORY B: 'RETENTION DESIRABLE'
	CATEGORY C: 'TREE WHICH COULD BE RETAINED'
	CATEGORY R: 'TREE FOR REMOVAL'
	ROOT PROTECTION AREA
•	CENTRE OF TREE/SHRUB
•	CENTRE OF TREE/SHRUB TO BE REMOVED

JCA LTD

Arboricultural & Forestry Consultants

Arboricultural Association Consultant

THE ROOT PROTECTION AREA (RPA) IS THE MINIMUM AREA AROUND A TREE WHICH SHOULD BE LEFT UNDISTURBED, IN ORDER TO AVOID DAMAGE TO THE ROOTS OR THE ROOTING ENVIRONMENT.

IF WORK NEEDS TO CARRIED OUT WITHIN THE RPA THEN SPECIALIST SURFACES OR SPECIALIST CONSTRUCTION TECHNIQUES MUST BE CONSIDERED. CARE MUST ALSO BE TAKEN TO AVOID GROUND COMPACTION WITHIN THE RPA AND THE STORAGE OF MATERIALS IS NOT PERMITTED. ANY EXCAVATIONS WHICH ARE REQUIRED WITHIN THE RPA MUST ONLY BE CARRIED OUT BY HAND.

APPENDIX 7

LANDSCAPE ASSESSMENT

Landscape Assessment Report

1. Trees to be Removed

1.1 The trees on site are generally in poor condition and offer little current or future benefit to local amenity. The age and species diversity of the trees is limited and the site would benefit from a landscaping scheme that can provide a useful lasting amenity to both the development and the surrounding area.

1.2 In this instance, a number of trees have been recommended for removal due to arboricultural reasons (general health and safety). In addition, a number of trees will need to be removed to accommodated the new development, the following is a breakdown of required tree removal on site:

2. Existing Trees

2.1 Some trees will be retained on site. These trees will add maturity to the proposed planting. An Arboricultural Method Statement (AMS) in accordance with BS5837 will ensure that the retained trees on site will be protected throughout the construction process.

3. Benefits of Planting

3.1 Most local authorities have policies for replanting trees on development sites as Supplementary Planning Guidance (SPG) within their Unitary Development Plan (UDP) or Local Development Framework (LDF). These policies are designed to promote the protection of trees during development and to encourage continual or increased tree cover throughout the authority. All proposed planting should be considered in accordance with the Landscape Design provisions set out in Barnsley MDC's Supplementary Planning Guidance.

3.2 Where appropriate, planting should be done as part of sustainable development and should be done in a sympathetic manner in order to avoid any potential future conflicts with buildings. Replacing trees will not only promote biodiversity but will be beneficial to both the local environment and the end users of the development. Quality young trees mixed with significant mature trees will provide a continuity of tree cover for many years to come.

3.3 Ideally native species should be used that will be beneficial to wildlife and will enhance local biodiversity; but there are also a number of non-native species that would be suitable.

3.4 In addition to the above, tree cover offers many other benefits such as aiding surface water runoff and drainage, providing shade and shelter and creating greener environments for people to live in.

4. Recommended Planting

4.1 As part of the post construction landscaping scheme new replacement tree planting is recommended. Employing the planting scheme suggested below will result in a significant increase of trees on site.

4.2 We recommend that, as a minimum, trees are replaced on a 2 for 1 basis in order to compensate for any removal of trees. The suitability of species within the local landscape, in addition to the form and ultimate size of recommended trees, has been considered so that the replacement planting scheme will harmonise with the surrounding area and provide amenity value to the local area and biodiversity for the local wildlife.

4.3 The Biodiversity Action Plan for Barnsley (BAP) highlights a number of habitat types and tree species that would be desirable within the area. These species have been considered when deciding on suitable planting species.

4.4 In the area of the proposed house development (Site A), we would recommend a variety of native species including fastigiate and flowering types. These could include *Acer campestre* (Field Maple) and *Sorbus aucuparia* (Rowan); or other ornamental flowering varieties and trees with limited growth and vigour. Larger native species, e.g. *Quercus robur* (Oak) and *Fraxinus excelsior* (Ash) could be reserved for structural planting, e.g. at street corners.

4.5 In the area of the proposed public open space and flood basin (Site B), we would recommend a variety of water tolerant species, e.g. *Salix sp.* (Willow), *Alnus sp.* (Alder) and *Betula pendula* (Silver Birch). The same species in small quantities might also be considered in the grassed area comprising the flood basin.

4.6 Adjacent to the factory, a screen comprising coniferous species e.g. *Pinus sylvestris* (Scots Pine) would be recommended, perhaps faced (on the flood basin side) by Alder and Birch.

4.7 Along Valley Road, an avenue of *Tilia sp* (Lime) might be considered on

both sides of the road, together with a dense understorey of shrubs adjacent to the factory to complete the screen.

4.8 Hedges might be considered in preference to, or in addition to the palisade fencing in order to improve the amenity of the flood basin area and provide havens for wildlife. Suitable species would include a mixture of *Crataegus monogyna* (Hawthorn), *Prunus spinosa* (Blackthorn) and Holly (*Ilex aquifolium*).

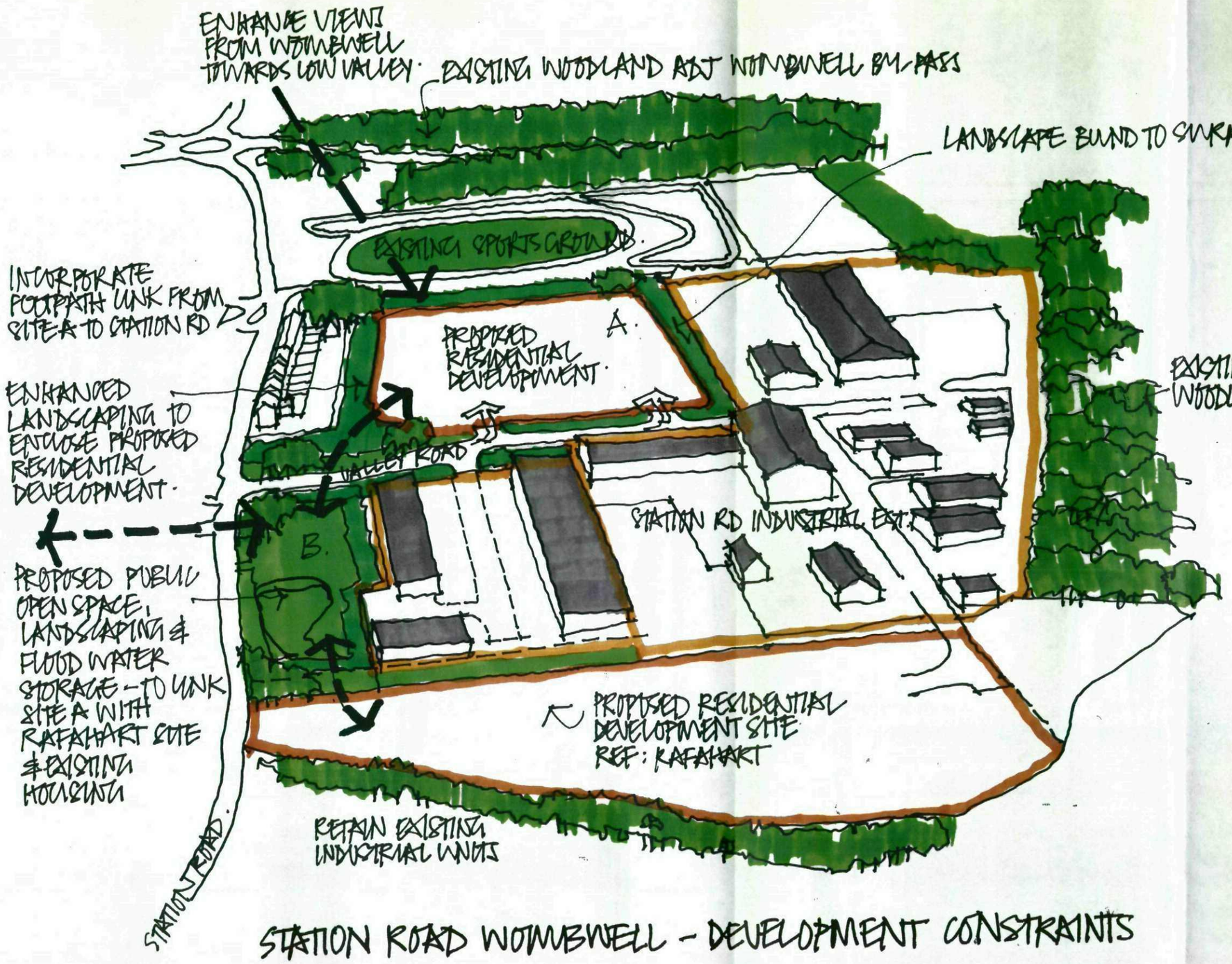
4.9 Overall, the suggested species will fit well into the surrounding landscape and will enhance the local area. They will provide shade and shelter and act as a barrier to aid noise reduction. Upon instruction, JCA will provide a detailed Method Statement and Planting Scheme.

APPENDIX 8

SITE CONSTRAINTS AND CRITICAL DESIGN ISSUES

DO NOT SCALE

All Dimensions in Millimetres unless specified otherwise and subject to vertification on site.



STATION ROAD WOMBWELL - DEVELOPMENT CONSTRAINTS

Chris Carr Associates

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APPENDIX 9

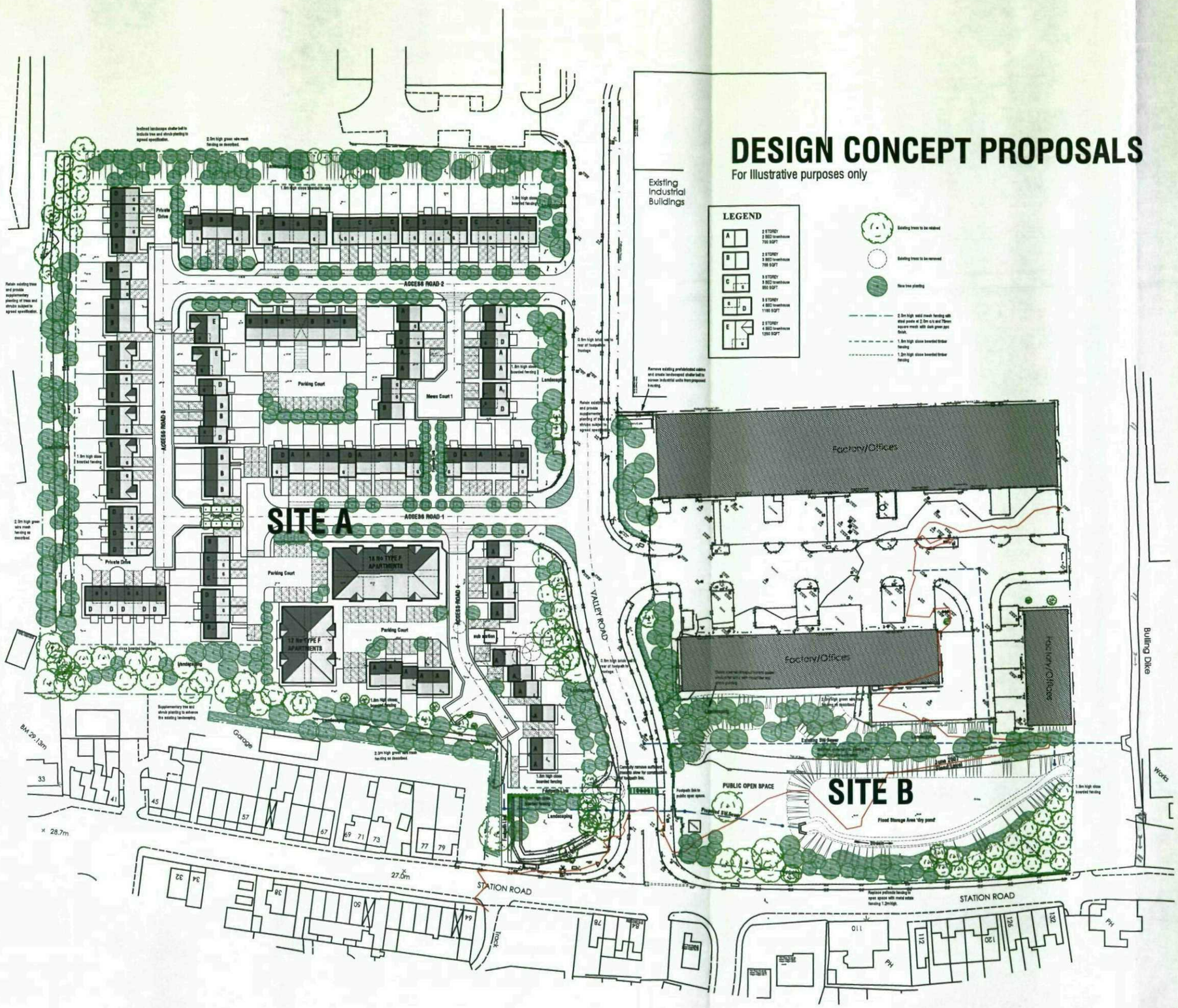
DESIGN CONCEPT PROPOSALS

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For Illustrative purposes only

North

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Drwg No P1 Rev B



WINDOWSTYLE UK LTD
STATION ROAD
WOMBWELL

BLOCK PLAN

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